Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-15 (canceled)

Claim 16 (currently amended): A method as in Claim ~~15~~41, wherein data in the control unit and the data unit is interleaved over the duration of ~~the~~ respective units.

Claim 17 (previously presented): A method as in Claim 16, wherein the data unit comprises a single frame.

Claim 18 (previously presented): A method as in Claim 16, wherein the data unit comprises a plurality of frames.

Claim 19 (currently amended): A method as in Claim ~~15~~41, wherein the assumed spreading factor is the lowest of the plurality of spreading factors.

Claim 20 (currently amended): A method as in Claim ~~15~~41, wherein the estimate is calculated by matching ~~the~~ a relationship between the received powers of the control unit and the data unit with a member of a set of possible power relationships known *a priori*, wherein each member of the set corresponds to one of the spreading factors.

Claim 21 (currently amended): A method as in Claim ~~15~~41, after having made the estimate, a remainder of the data unit is decoded using the estimate of the spreading ~~code~~factor.

Claim 22 (currently amended): A method as in Claim ~~15~~41, wherein the data unit comprises data relating to a plurality of user services.

Claims 23-25 (canceled)

Claim 26 (previously presented): A method as in Claim 16, wherein the assumed spreading factor is the lowest of the plurality of spreading factors.

Claim 27 (previously presented): A method as in Claim 17, wherein the assumed spreading factor is the lowest of the plurality of spreading factors.

Claim 28 (previously presented): A method as in Claim 18, wherein the assumed spreading factor is the lowest of the plurality of spreading factors.

Claim 29 (currently amended): A method as in Claim 16, wherein the estimate is calculated by matching ~~the~~ a relationship between the received powers of the control unit and the data unit with a member of a set of possible power relationships known *a priori*, wherein each member of the set corresponds to one of the spreading factors.

Claim 30 (currently amended): A method as in Claim 17, wherein the estimate is calculated by matching ~~the~~ a relationship between the received powers of the control unit and the data unit with a member of a set of possible power relationships known *a priori*, wherein each member of the set corresponds to one of the spreading factors.

Claim 31 (currently amended): A method as in Claim 18, wherein the estimate is calculated by matching ~~the~~ a relationship between the received powers of the control unit and the data unit with a member of a set of possible power relationships known *a priori*, wherein each member of the set corresponds to one of the spreading factors.

Claim 32 (currently amended): A method as in Claim 19, wherein the estimate is calculated by matching ~~the~~ a relationship between the received powers of the control unit and the data unit with a member of a set of possible power relationships known *a priori*, wherein each member of the set corresponds to one of the spreading factors.

Claims 33-34 (canceled)

Claim 35 (previously presented): A method as in claim 15, wherein the estimate of the spreading factor used to transmit the data unit is different from the assumed spreading factor used to decode the initial portion of the data unit.

Claim 36 (previously presented): A method as in claim 15, wherein the information for decoding the data unit includes information indicating a data rate of the data unit, and the initial portion of the data unit is decoded at the assumed spreading factor before the information indicating the data rate of the data unit is decoded.

Claim 37 (previously presented): A method as in claim 35, wherein the initial portion of the data unit is decoded at the assumed spreading factor, and, after the estimate of the spreading factor has been made, a remainder of the data unit is decoded at the estimated spreading factor.

Claim 38-40 (canceled)

Claim 41 (new): A method, comprising:

decoding an initial portion of a control unit;

decoding an initial portion of a data unit at an assumed one of a plurality of spreading factors;

calculating a received power of the decoded initial portion of the control unit;

calculating a received power of the decoded initial portion of the data unit; and

making an estimate of the spreading factor used to transmit the data unit, using the calculated received power of the decoded initial portion of the control unit and the calculated received power of the decoded initial portion of the data unit.

Claim 42 (new): A method as claimed in claim 41, further comprising: transmitting the data unit at one of the plurality of spreading factors over the data channel and transmitting in parallel over the control channel the control unit comprising information for decoding the data unit.

Claim 43 (new): A method, comprising:

      decoding an initial portion of a control unit;

      decoding the whole of a data unit at an assumed one of a plurality of spreading factors;

      calculating a received power of the decoded initial portion of the control unit;

      calculating a received power of the decoded data unit; and

      making an estimate of the spreading factor used to transmit the data unit, using the calculated received power of the decoded initial portion of the control unit and the calculated received power of the decoded whole data unit.

Claim 44 (new): A method as claimed in claim 43, further comprising: transmitting the data unit at one of the plurality of spreading factors over the data channel and transmitting in parallel over the control channel the control unit comprising information for decoding the data unit.

Claim 45 (new): A system, comprising a receiver, operable to decode an initial portion of a control unit, to decode an initial portion of a data unit at an assumed one of a plurality of spreading factors, to calculate a received power of the decoded initial portion of the control unit and a received power of the decoded initial portion of the data unit, and to estimate the spreading factor used to transmit the data unit using the calculated received power of the decoded initial portion of the control unit and the calculated received power of the decoded initial portion of the data unit.

Claim 46 (new): A system as claimed in claim 45, further comprising: a transmitter for transmitting the data unit at one of the plurality of spreading factors over the data channel and for transmitting, in parallel over the control channel, the control unit comprising information for decoding the data unit.

Claim 47 (new): A mobile station, comprising a receiver, operable to decode an initial portion of a control unit, to decode an initial portion of a data unit at an assumed one of a plurality of spreading factors, to calculate the received power of the decoded initial portion of the control

unit and the decoded initial portion of the data unit, and to estimate the spreading factor of the transmitted data unit using the calculated received power of the decoded initial portion of the control unit and the calculated received power of the decoded initial portion of the data unit.

Claim 48 (new): A system, comprising:

      means for decoding an initial portion of a control unit;

      means for decoding an initial portion of a data unit at an assumed one of a plurality of spreading factors;

      means for calculating a received power of the decoded initial portion of the control unit and a received power of the decoded initial portion of the data unit; and

      means for estimating the spreading factor used to transmit the data unit using the calculated received power of the decoded initial portion of the control unit and the calculated received power of the decoded initial portion of the data unit.